months. Several days are occupied in simply waiting for the hide to dry following various 281
steps in the process. The most difficult part of the work lies in removing the flesh and hair. Two women can do this in about ten or twelve hours. A family will sometimes purchase a hide which has been fleshed and cleaned and then finish the tanning; such a skin sells for from six to eight dollars. Each softening of the hide takes two people about eight hours. The final smoking must be carefully watched and, depending on the size of the skin, occupies from forty-five minutes to an hour and a half. A fully tanned moosehide represents about fifty work hours; a small caribou skin, somewhat less time.

Fire. Two general types of fire may be distinguished, fires made in stoves and campfires 372 ●
built outdoors. Stove fires are built from small dry kindling split from a section of log and shaved toward one end with a knife. After the kindling has caught, larger sections of cut wood are added. Outdoor fires are generally built with kindling obtained from the dry small limbs found toward the bottom of spruce trees. A large double handful of these twigs is collected and thoroughly broken into small bits. Larger wood is also collected and set to one side. After the kindling has been well broken up, so that it forms a compact mass, it is ignited. When the fire is well caught, the pile of brush may be tipped over from behind and lightly pressed down. Now larger sticks are added. In winter, snow is first cleared from a fireplace before a blaze is set, and a thick layer of brush placed on the ground in front of the fire to prevent moccasins from becoming wet in the melting snow (Pl. 9, a).

People are very much at ease around open fires, readily passing things over the flames and handling hot sticks without any sign of timidity. When working outdoors in fall or winter, men and women generally build fires behind them to keep warm. In standing or sitting around an open fire, people keep their backs to the blaze. If they face the fire, as sometimes becomes necessary, they look over rather than into the flames. This habit avoids the temporary blindness that follows prolonged, sustained exposure to bright light. To keep wind from fires, a tarp is sometimes erected on the windward side. In cold weather such protection has the additional function of directing the heat of a fire into the camp. Prevailing attitudes, expressed by men and women, tend to emphasize the smoke, draft, and other inconveniences associated with open fires as compared to stove fires. Smoke is regarded as detrimental to children's health. There is also the fear that children may burn themselves playing around an open fire.

Heavy smoke fires for smoking hides are made from rotten spruce wood which may be 372
mixed with a little green spruce brush. Green spruce brush and green wood are collected 381
for the light smudges used to keep flies off drying meat or for the preliminary smoking of 381
hides.

Care is always taken to prevent campfires from spreading. A shallow trench is dug 372
around the embers with the toes or with a stick, and the loose dirt kicked into the ends. Damage to dwellings from fire is not an unfamiliar experience to the people. Tent fires are especially common, three occurred during the period of field work. Two of these blaze were caused by candles being left too close to the walls of wall tents while the occupants were in sleep.

Kerosene lamps and candles are in common use and a few families also own Coleman 373

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Upper Liard

501 505 396 [372]

Despite their reported dryness of river travel the Upper Liard Indians recall manufacturing rafts, moose-skin boats, dugouts, and bark canoes. Five or more logs provided sufficient material for the construction of a raft, the parts being lashed together with the aid of two cross poles and spruce-root line. For dryness smaller poles were some times laid above these crossbeams and at right angles to them, being secured to their foundation with spruce-root cordage. In the center of a traveling raft people packed mud to provide a hearth suitable for a small fire. A raft pointed at the stern sometimes served hunters in autumn for hunting fowl. These craft are said to have been faster than the square raft.

501 505 [377] 396

In spring and summer the people traveled downriver in moose-skin boats that sometimes contained as many as two moose hides. Smaller craft of this type, however, carried only one or two skins. The larger skin boats accommodated up to 20 people while the smaller vessels held one or two men going on a hunting expedition,[8] a division corresponding to the two types of canoes to be described below. This suggests that among the Tahltan moose-skin boats came to supplant bark vessels, perhaps after the introduction of the gun, which facilitated hunting.[9] To construct such a boat women sewed together the hides with sinew, each skin overlapping the next by about two inches. The seams were sealed with moose grease. Spruce gum, our informant claimed, did not adhere well to moose hide. Preparation of the frame-work for the vessel constituted men's work and required first laying down a single spruce pole as a keel. The keel curved at the center of the sewn sheet of hides, the upturned ends being inserted into the edges of the tightly spanned skin in such a way as to arch the keel. A number of uprights provided the ribs of the vessel and were secured to the keel with babiche lashing. They also hooked into the edges of the hide. Completion of such a boat took no more than a day if both sexes cooperated. After one or two uses the hides remained useful for other purposes, but prolonged immersion in water caused them to rot. This advises that "these hide canoes have to be kept beyond the reach of dogs, which, when hungry, sometimes destroy them."[10] Propulsion of the skin boat was by paddling. The vessels are recalled as having been both loaded and under-slung rafts, largely because half-submerged driftwood did not threaten them the way it menaced the raft.

501 396 [371]

For relatively long distance travel, which required the simultaneous transportation of household goods, people used dugouts which our informant (O) referred to as the "Liard River Indian boat." The native term for the vessel means "something floating." Relatively rare in the Northern Athapaskan area, the dugout is, of course, common among the Pacific Coast Tlingit as well as on the Plateau. Its use among the Kaska may be regarded as a trait allying these people to the two adjacent areas. Construction of the craft among the Kaska closely approximated details of manufacture reported for the Tlingit. It may logically be supposed that the building of the dugout increased following the introduction of metal tools. Teit writes, "canoes were used on the Dikleh, Tahtan, and some other streams and lakes. They were mostly dug-outs acquired from the Tlingit, but on the upper streams were made by themselves from cottonwood logs."[11]

[377]

[8] Teit, *Notes on the Tahltan Indians of British Columbia* (1956), 341.

[9] Teit, *Notes on the Tahltan Indians of British Columbia* (1956), 341. There is evidence that the dugout may be an old feature of circumpolar culture dating to Bronze times. (Spaulding, *Northwestern Archeo-*

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Dease River

vehicle. Women as well as men drew the toboggans, a harness for this purpose consisting of one moose-hide line passing around the outside of the arms and around the chest while another cord passed over the top of the head.

Snowshoe types included the round or Louchoux style (said to have been preferable because of its lighter weight) as well as the pointed variety. Function determined the length of these appliances, long shoes being best adapted for a hunter's swift travel in deep snow. Small shoes served well to break trail for a toboggan. In case of emergency a man made temporary snowshoes by bending and lashing a willow pole, which he then filled with heavy babiche line. Children usually employed such crude snowshoes throughout the winter. The customary division of labor appeared, a man constructing the framework while a woman applied the filling. Bone snowshoe needles contained a concave depression at one end that served to push the line between closely laid strands of filling.

In any season the order to travel required men to walk ahead of women, a person that allowed them to break trail for the women and children. Shoes consisted of willow and other branches broken in the direction taken. Sometimes men hung moss in the branches of a tree, laid down moss to indicate a course, or cut the trunks of trees with a carbon-bare axe. A single tree felled by fire provided a convenient bridge. Occasionally more complex spots containing a number of poles provided safer means for crossing a stream. The temp line facilitated packing and pack sticks remained unknown. Baby packs consisted of tanned skin padded with moss. In this container the child faced away from the mother. When old enough to leave the moss bag a youngster rode facing the mother on the latter's back supported by a baby strap that was passed around the outside of the arms and tied in front of the woman's breast. Such baby carriers were often decorated with porcupine-quill embroidery. Back baby carriers were not made.

For communication between traveling groups, the Indians sometimes made use of smoke signals, a single smoke calling attention to a game kill. Also runners might be sent to invite people to the scene of a kill, young men being able to cover 30 miles by running in a single day. Picture writing or drum language were both lacking.

For water transportation the Dease River people relied on rafts, moose-skin boats (which occasionally reached a length of 30 feet), dugouts, and spruce-bark canoes. A raft consisted the necessary number of poles lashed to crossbars with tanned skin line. Pulling the line gave the craft greater speed. An earthen fireplace was often situated somewhat forward on a pointed raft, but people invariably spent nights on shore in the course of traveling. Two varieties of spruce-bark canoes may be distinguished, small canoes serving one or two hunters and larger boats for traveling. The bark was sewn to the framework with spruce root line. Decked canoes, rafts, or canoes traveling in pairs could not be recalled for the pre-contact period. Men cut paddles from spruce wood. Extended handles were desired for these implements, the informant claiming that the upper end of the shaft contained a complaint on which the canoe hammed his grip. Such crutch-like handles must have resembled the type in use on the Northwest Coast. A ridge was left on the center of the blade, the edge of which might be decorated with [illegible] [illegible] [illegible].

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Upper Liard

CAMP AND CAMP LIFE

SHELTER

UPPER LIARD KASKA. The people of the Cassiar lived in structures ranging in complexity from a spruce-brush windbreak to a large, multifamily dwelling. When compared to a universal range of shelter types the housing of the Kaska Indians remains generally simple. Such simplicity nevertheless supported life in some degree of comfort when outdoor temperatures dropped to 50 or more degrees below Zero Fahrenheit. 342

One informant had heard that "a long time ago people dug into the side of a hill" for a place to live. The actual excavation of such a house took place in summer. Following the completion of the autumn hunt (around November) the group returned to the cave, piled brush around the walls, and blocked the entry with moss or skins. Smoke escaped through a smoke hole provided in the roof. In this setting the people passed the period of most severe winter cold.[1] Recent recalled dwelling types included the central lodge and inverted v-shaped or a-type house. Both styles provided semi-permanent winter dwellings. It must be realized, however, that their occupancy lasted only as long as a particular territory produced game and fish for food. When these resources failed or if nearby caches became exhausted, people quit a camp in a search for better stocked regions. The central shelter consisted of a series of poles closely placed (probably on a tipi foundation) and covered with sod, bark, or moss but not usually with skins.[2] A fire laid in the center of the building served the several families. As many as 20 people could be accommodated in a central lodge, the diameter of which reached 20 feet. One informant (G) reported that sometimes circular ground-plan dwellings were built on stone foundations. Inverted v-shaped houses may be regarded as composite structures that included two converging lean-tos.[3] Roofed with closely laid poles overlaid by brush, sod, or moss, these shelters often accommodated two, generally related, families. The front and rear ends were blocked with brush except for a narrow passage at one end closed by a tanned-skin curtain. Each family prepared its own food over a common fire laid in the center of the dwelling. Customarily each family occupied one side of the fire. Children slept toward the rear. [372]

Simple lean-tos, occasionally covered with skins, provided temporary shelter on dull cloudless types of more dwellings. In preparing the simplest kind of open snow camp, people cleared an area of snow, placed brush on the ground, and, after making a fire,

[1] For other data concerning cave shelters in the area see below, p. 40.

[2] The pattern corresponds closely to the central sod lodge of the contemporary Tutchone-Upper Tanana (see Honigmann, *Ethnographic Data Bell area* (1947-48).

[3] Further "lodges were of the single and double lean-to types, mostly the latter. They were roofed with poles close together, and sometimes further covered with brush, bark, and earth or snow. The central lodge was sod, not semi-underground dwellings." (Nelson, *the Tutchone* (Manuscript) 6 of 1943, 48.) Nelson has erected the v-shaped house as the original shelter of the Tlingit and allows that side lights were later acquired from the natives (see Swanton, *Tlingit Myths Texts* (1909-10), 320-29).

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piled snow high all around the central space. The warmth of the fire caused the snow to
melt, a condition that insured better protection from wind. At other times people
dug into a snowbank to fashion an overnight shelter. Snow shovels were not widely
used among the Liard River Indians, so that people moved snow with the aid of snow-
shoes. A snowhouse contained a fire, the smoke of which escaped through a hole in the
roof.

In summer threat of an enemy attack led the people to excavate pits near the camp
where young children could be secreted and covered with caribou hides (possibly camou-
flaged with earth). Birch-bark, semisubterranean, and grass-mat houses remained un-
identified by informants. Log cabins commenced to enjoy popularity after the intro-
duction of the steel ax following white contact. Skin-covered tipis are said to have been
introduced by a Fort Liard family. It is interesting to note that while anthropological
thinking might classify together the sod- and skin-covered conical lodge Indians tend to
distinguish them sharply.

Appurtenances remained scarce in aboriginal dwellings. Spruce brush or grass pro-
vided floor covering, the grass first being softened by rubbing between the hands.
People especially favored grass for sleeping places. Raised platforms did not find a
place in houses and stuffed pillows are also denied. Sleepers lay covered by robes of
woven rabbit or ground-hog skins or blankets containing a number of beaver and marten
pelts sewn together. Drifted snow and other debris we brushed away from dwellings
with a willow broom.

Other than the cache, non-residential structures we represented only by the sweat-
ory, which was built over ground that had been excavated to a depth of about 12 inches.
Atop the excavated space, willow poles were bent and lashed together, following
which a stretching of tanned skins were over the framework. A hole for ventilation opened
in the top of the dome. Sweat houses contained no door, the user simply lifting the lower
edge of the cover when he wished to enter or leave. Of rocks dashed with water fur-
nished steam as well as a heat so intense that the lady might be driven to lift a corner
of the cover to admit cool air. Ceremonial structures and no place in the Kaska settle-
ment and even the brush enclosed dance or ceremonial plaza appears to have been
lacking.[1]

The efficiency of any dwelling is vitally dependent on fire. Heat also consti-
tuted a prerequisite for many technological operations, ranging from cooking to snow-
shoe making. Two versions of a common myth explaining the origin of fire (or rather
of matches) are given below.

[illegible] Raven's best fire rock and didn't want to give it to the Indians. He wanted to keep it.
A [illegible] willow stole the stone and gave it to Fox Man who [illegible]. Teagaya [illegible] secured
the rock and made fire with it. Then he threw the rock all over, all over the country, so that every-
body could have fire. [illegible]

Crow and Wolf held a meeting. This took place before there were any people in the world. Crow had
been in the habit of flying around and when any animal killed meat he would be on hand to take some

[1] Honigmann, Ethnography and Acculturation of the Fort Nelson Slave (1946), 89; Osgood, Contributions to the Ethnography of the Kutchin (1936), 32, 102, [illegible].

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and bring it back. Wolf, his brother-in-law, saw this and said, "What are you doing?" Crow replied, "I get this from somebody." Wolf said, "Did you ask for it?" Crow answered that he had not and Wolf pointed out that Crow had behaved wrongly. 372 539

Wolverine belonged to Crow. Together Wolverine and Crow continued to steal many things. Grizzly Bear was Wolf. Fox belonged to Crow. Grizzly Bear told Wolverine not to rob caches. Grizzly Bear had a flat stone secured under his belt. Chickadee came around in cold weather and was nearly frozen. "Grandpa," he said to Grizzly Bear, "I'm just almost frozen." The latter replied, "Sit down alongside the fire." Wolf and the other animals were hiding outside of the circle of light. Grizzly Bear turned his back to the fire when Chickadee said, "You've got lots of lice on your belt." Grizzly Bear invited Chickadee to pick off the lice. Chickadee never picked the lice but worked with the belt, under which was the piece of stone. While Chickadee did this, the balls under Grizzly's tail began to twitch. As they began to move, Chickadee caressed them and urged them to be quiet. At the same time he took knot after knot out of the belt and finally seized the flint and ran off. Grizzly Bear went in pursuit but without any shoes on. That's why Grizzly has no moccasins today.

Chickadee flew a short distance with the flint and gave it to Wolf who ran half way and gave it to Lynx. Lynx went a little way and Grizzly Bear nearly got it from him. Fox got it and ran a little way and then stopped until Grizzly Bear came close. He barked, ran a short distance, and waited again. He then dashed across a gulch. Grizzly followed him and Fox ran to the next gulch and again barked. Grizzly became angry and growled. He burnt the balls beneath his tail and walked off, not knowing what he would do in fall time. Fox came out on top of a mountain and smashed the flint all over and threw it around the country so that people everywhere secured fire.[4]

As these tales suggest, fire was generated by the strike-a-light method, tinder consisting of soft, dry grass; dry birch bark; or an unidentified fungus tree growth. People always built blazes on the surface of the ground, dugout fireplaces being unknown and clay-enclosed hearths remaining restricted to rafts. In conical shelters a small circle of sticks six or seven inches high sometimes surrounded the fire and prevented the floor brush from working too close to the blaze. On winter nights fires that had been fed with cottonwood were carefully banked with ashes in order to make them last until morning, when a little blowing quickly aroused a flame. During winter movement people carried fire in bark vessels that presumably contained a packing of moss. On long journeys women swung glowing sticks of rotten wood as they walked. An informant (X) reported hearing of fire drills in use, he thought, among the Babine Lake people (Carrier?). 372 354

Dease River Kaska. The Dease River people did not ordinarily construct shelters in summer, while people were content to live in open camps or under brush lean-tos when it rained. In winter two types of dwellings appeared, the inverted v-shaped structure and the conical lodge. Both contained fires in the center of the ground space. The foundation of the v-shaped shelter consisted of a ridge pole suspended, between two forked sticks, the front and rear ends being closed with brush except for a single entry. Brush with snow piled on top roofed the building, in which one or two families resided. Conical lodges consisted of a circle of poles covered with spruce brush or spruce bark piled over with snow. Only a rich man could completely cover his lodge with skins but quite commonly a skin flap closed the entry of a dwelling.[5] While circular lodges oc- 342

[4] When specifically asked about Tsagaye's role in the theft of fire the informant thought that Fox must have been working for the culture hero.

[5] According to a Kechika River informant conical lodges were standard dwellings at Fort Nelson and Liard but in the Kechika basin people aboriginally built only the inverted-V type structure.

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Tsetan

342 casionally reached a diameter of 30 feet and accomodated several families, smaller structures built in this style and housing only one or two families occurred more frequently. Birch-bark and grass-mat buildings were unknown. A Kechika River man appeared vaguely familiar with the mawhouse but would venture no description of its form or [462] construction. Women erected houses and were believed to construct better structures than men. Qualities governing selection of a dwelling site included "hard" (i.e., dry) ground and accessibility to water. Dry wood could be found nearly everyplace. People never excavated the ground of a house site.

592 Within a dwelling women occupied the area nearest the entry, while a husband had his place toward the rear. Daughters slept near the mother, sons farther back from the 5B entry. Infants rested in skin hammocks suspended over the mothers' sleeping places. Along the Kechika River, at least, babies used hammocks of plaited, split spruce roots [354] lined with skins. Specially constructed fireplaces or sleeping platforms did not occur. People lived on a carpet of spruce brush and at night covered themselves with robes of sewn marten and ground-hog pelts or plaited rabbit-skin. Grizzly bear robes, because of their size and warmth, provided especially desirable blankets. Some people used pillows made by packing duck or partridge feathers in a smoked skin bag.

343 The sweat house, built for the use of both sexes, was the only type of non-residential structure. Hemispherical in shape and about four feet high it contained a roof opening [349] designed to permit the escape of excess heat and steam. No ceremonial ceremonies occurred.

372 Both sexes showed equal skill in kindling fire by the strike-a-light method.[1] One 177 informant denied the use of fire drills (S) but another man constructed a bow drill which, he claimed, had been displaced from the culture because of its poorer efficiency compared to the use of flint and pyrites (WT). Boys and girls commonly sought fuel with some assistance from adults. In winter when camp moved women carried fire on glowing poles 15 or 18 inches long. Fire kept through the night if banked with earth or ashes.

342 *Tadous.* Winter dwellings conformed to the usual two types: conical with a framework of poles and inverted V-shaped. Roofing utilized spruce brush, moss, and sod but never grass thatch. Occasionally a household possessed sufficient skins to cover a conical lodge. [343] In summer the Indians did not live in houses and only rain impelled them to put up heavy bass-tos. Surprisingly the construction of sweat houses met with denial. In the

[1] A tale collected by Teit tells how Bear's monopoly of the fire stone was broken by a little bird who visited Bear's lodge to warm himself. While picking lice from the Bear the bird broke the latter's hair and flew off with the stone, passing this object to a number of evading animals. Last to receive the prize was Fox whose flight to a high mountain enhanced Bear. "Fox broke up the fire stone on the top of the mountain, and threw the fragments a piece to each tribe. Then the many tribes all over the earth obtained fire; and this is why there is fire in the rocks and woods everywhere now." As a result of losing fire Bear made a hole in the earth to keep himself warm in winter—the origin of the bear's den! Teit, *Kootenay Tales* (1917), 243-244.

It will be recalled that the Upper Liard Indians made fire with the strike-a-light method. The Tlingit (including the Chilkat) used fire drills, including the bow type, as well as percussion methods of fire making. Drucker, *Culture Element Distributions: XXVI, Northwest Coast* (1948), 202.

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Espatotena
Upper Liard

In the
dwelling people lived on the spruce-brush carpeted ground and slept under blankets of woven rabbit skin or stitched ground-hog pelts with tanned-skin pillows stuffed with feathers. The strike-a-light method provided fire and was used in conjunction with a fungus that grew on birch trees, from which tinder was prepared. Informants mentioned the fire drill but its use appears to have been relatively recent. Travelers in both summer and winter carried fire on glowing poles, the only type of fire carrier admitted.

Espatotena. From a trapper operating in the South Nahani drainage Gabell heard of a cave " 'cut from the rock half-way up the face of a hundred foot precipice that spans a two-thousand-foot valley. It was about eighteen feet by twelve, with a hole running straight up through the rock, which must have been a sort of chimney.' " Two additional caves were also reported, " 'chiselled from living rock by human hands.' "[8] While the construction of rock shelters by stone-tool using aborigines may be questioned, the use of cave shelters seems very plausible and is in fact corroborated by data we ourselves obtained as well as by other investigators. Dr. Wesley Bliss of the University of New Mexico entered the South Nahani country in 1938 and reports on cave habitations.[9]

DRESS AND ADORNMENT

Upper Liard Kaska. Camp provided the place where the Kaska woman manufactured clothing for her husband, children, and herself. Tanned caribou skin comprised the principal material which she sewed with the aid of sinew line and bone needles pushed with a flat piece of bone held in the palm of her hand. Women used a work board when cutting the patterns of moccasins and mittens. Small sewing implements not in use were kept in a fish-skin bag. During cold weather fur robes supplemented tanned-skin garments. These had been tanned by women workers or else been plaited from strips of rabbit, ground-hog, and gopher skins without the aid of a frame. Body parts served for measuring clothing materials.

In summer each sex wore a tanned-skin breech cloth supported from an inner belt, a tailored coat or dress with sleeves reaching to just below the elbow and girdled by a belt of tanned skin or woven porcupine quills, trousers of the same material suspended at the hips from the inner belt, and moccasins. In winter certain adjustments were made to this basic dress, notably through the use of additional garments. The breech cloth became a length of plaited rabbit skin, while over the coat both sexes slipped a parka made of smoked caribou skin or of sheep skin tanned with the hair on. The parka reached to the middle of the thigh and splits on both sides of the lower edge were provided with a lacing that could be tightened to insure a snug fit. Parka sleeves sometimes continued

[8] Gabell, *Resources of the Alaska Highway* (1943), 95.

[9] From the Dilly River country. Bliss reports that the Indians "years ago lived in open camps sheltered on three sides by throwing up logs and brush." A fire was located in front of these lean-tos which were further covered with caribou skins. (Bliss, *Unpublished manuscript* [1938], 5.) In 1890 Schwatka reported for Ayers, a village below Fort Selkirk (Yukon) seen by his Indians had built log cabins "of the most squalid and overdrawn character, which they leave in winter for the better protection of the east." There is nothing to suggest that these log houses are aboriginal. The semi-civilized species of conical shelters covered with a double layer of skins and banked with snow. Schwatka, *Report on a Military Reconnaissance made in Alaska in 1883* (1885), 99.